

AMENDMENTS TO THE CLAIMS

Upon entry of this amendment, the following listing of claims will replace all prior versions and listings of claims in the pending application.

IN THE CLAIMS

Please amend claims 42-45, 48, 49, 51-55, 58, 59, 61 and 62 as follows:

1-41 (Cancelled).

42. (Currently Amended) A method for adaptively generating exception rules to rejection rules for filtering messages, comprising:

(a) receiving, by an intermediary device between a client and a server, a first message of a first user session, the first message having a first URL component comprising a plurality of hierarchically related URL components, the plurality of hierarchically related URL components comprising a first URL component and a second URL component, the second URL component being a descendant of the first URL component;

(b) rejecting, by the intermediary device, the first message based on a rejection rule that rejects messages having the first URL component;

(c) maintaining, by the intermediary device, a first number of ~~occurrences of user sessions each having one or more messages rejected based on the first URL component in~~ messages received by the intermediary device;

(d) maintaining, by the intermediary device, a second number of ~~occurrences of user sessions each having one or more messages rejected based on the second URL component in messages received by the intermediary device~~;

(e) determining, by the intermediary device, that ~~a function of the first number of occurrences of user sessions exceeds a threshold and that~~ the second number of ~~occurrences of user sessions does not exceeds a the~~ threshold;

(f) generating, by the intermediary device, an exception rule to the rejection rule responsive to the determination, the exception rule allowing messages having the first URL component to pass;

(g) receiving, by the intermediary device, a second message of the first user session having the first URL component; and

(h) allowing, by the intermediary device, the second message of the first user session to pass between the client and the server based on the exception rule that allows messages having the first URL component to pass.

43. (Currently Amended) The method of claim 42, wherein ~~exceeding the threshold further step~~ (e) comprises determining that having the first number of user sessions ~~occurrences of the first URL component in messages received exceeding the threshold, the first URL component having no descendants with a corresponding number of user sessions occurrences in messages received exceeding the threshold.~~

44. (Currently Amended) The method of claim 42, ~~further wherein step (e) comprises~~ determining that a defining the function of is a sum of at least the first number of user sessions ~~occurrences and the second number of user sessions occurrences exceeds the threshold.~~

45. (Currently Amended) The method of claim 42 44, further comprising defining the function as a function of the first number of ~~occurrences~~ user sessions and a number of user sessions corresponding to ~~occurrences of~~ each descendant of the first URL component in messages received by the intermediary device.

46. (Previously Presented) The method of claim 42, further comprising defining the threshold as a product of a total number of messages over a time interval and a percentage of the messages that should be allowed.

47. (Previously Presented) The method of claim 42, further comprising generating the exception rule by inferencing a scalar data type of the descendants of the first URL component.

48. (Currently Amended) The method of claim 42 44, further comprising defining the function as a direct count of the ~~occurrences of~~ user sessions corresponding to the first URL component.

49. (Currently Amended) The method of claim 42 44, further comprising defining the function as a weighted count of the user sessions corresponding to ~~occurrences of~~ the first URL component.

50. (Previously Presented) The method of claim 42, further comprising storing, by the intermediary device the URL in a trie structure, wherein each URL component of the plurality of hierarchically related URL components is associated with a node in the trie structure.

51. (Currently Amended) The method of claim ~~50~~ 44, further comprising storing, by the intermediary device the URL in a trie structure and maintaining the function in a node of the trie structure associated with the first URL component, wherein each URL component of the plurality of hierarchically related URL components is associated with a node in the trie structure.

52. (Currently Amended) A system for adaptively generating exception rules to rejection rules for filtering messages received by an intermediary device, comprising:

means for receiving a first message of a first user session, the first message having a first URL, the first URL comprising a plurality of hierarchically related URL components, the plurality of hierarchically related URL components comprising a first URL component and a second URL component, the second URL component being a descendant of a first URL component, wherein the first message is rejected based on a rejection rule that rejects messages having the first URL component;

means for maintaining a first number of user sessions each having one or more messages rejected based on ~~occurrences of the first URL component in messages~~ ~~received by the device~~, and a second number of user sessions each having one or more messages rejected based on ~~occurrences of the second URL component in messages~~ ~~received by the device~~;

means for determining that ~~a function of the first number of~~ user sessions exceeds a threshold ~~occurrences and that~~ the second number of user sessions does not ~~occurrences~~ exceeds ~~a~~ the threshold; and

means for generating an exception rule to the rejection rule for the first node associated with the first URL component responsive to the determination, the exception rule allowing messages having the first URL component to pass;

means for receiving a second message of the first user session having the first URL component; and

means for allowing the second message of the first user session to pass between the client and the server based on the exception rule that allows messages having the first URL component to pass.

53. (Currently Amended) The system of claim 53, ~~wherein exceeding the threshold further comprising~~ having means for determining that the first number of user sessions occurrences of the first URL component in messages received exceeding the threshold, the first URL component having no descendants with a corresponding number of user sessions occurrences in messages received exceeding the threshold.

54. (Currently Amended) The system of claim 53, ~~further comprising wherein the means for determining that a function of~~ is a sum of at least the first number of user sessions occurrences and the second number of user sessions occurrences exceeds the threshold.

55. (Currently Amended) The method of claim ~~53~~ 54, wherein the function is a function of the first number of user sessions occurrences and a number of user sessions corresponding to occurrences of each descendant of the first URL component in messages received by the device.

56. (Previously Presented) The system of claim 53, wherein the threshold is a product of a total number of messages over a time interval and a percentage of the messages that should be allowed.

57. (Previously Presented) The system of claim 53, wherein the exception rule is generated by inferencing a scalar data type of the descendants of the first URL.

58. (Currently Amended) The system of claim ~~53~~ 54, wherein the function is a direct count of the first number of user sessions corresponding to ~~occurrences of~~ the first URL component.

59. (Currently Amended) The system of claim ~~53~~ 54, wherein the function is a weighted count of the number of user sessions corresponding to ~~occurrences of~~ the first URL component.

60. (Previously Presented) The system of claim 53, further comprising means for storing the URL in a trie structure such that each URL component of the plurality of hierarchically related URL components is associated with a node in the trie structure.

61. (Currently Amended) The system of claim ~~60~~ 54, further comprising means for storing the URL in a trie structure such that each URL component of the plurality of hierarchically related URL components is associated with a node in the trie structure, and means for maintaining the function in a node of the trie structure associated with the first URL component.

62. (Currently Amended) A method for adaptively generating exception rules to rejection rules for filtering messages, comprising:

(a) receiving, by an intermediary device between a client and a server, a first message of a first user session, the first message having a first URL component comprising a plurality of hierarchically related URL components, the plurality of hierarchically related URL components comprising a first URL component and a second URL component, the second URL component being a descendant of the first URL component;

(b) rejecting, by the intermediary device, the first message based on a rejection rule that rejects messages having the first URL component;

(c) maintaining, by the intermediary device, a first number of user sessions each having one or more messages rejected based on ~~occurrences of~~ the first URL component ~~in messages received by the intermediary device;~~

(d) maintaining, by the intermediary device, a second number of user sessions each having one or more messages rejected based on ~~occurrences of~~ the second URL component ~~in messages received by the intermediary device;~~

(e) determining, by the intermediary device, that ~~a function of~~ the first number of user sessions exceeds a threshold ~~occurrences and~~ the second number of user sessions does not ~~occurrences exceeds a~~ the threshold;

(f) generating, by the intermediary device, an exception rule to the rejection rule responsive to the determination, the exception rule allowing messages having the first URL component to pass;

(g) receiving, by the intermediary device, a second message of the first user session having the first URL component;

(h) identifying, by the intermediary device, that the second message having the first URL component is rejected by the rejection rule;

(i) determining, by the intermediary device, that the rejection rule has an exception rule that may allow a message that has been rejected by the rejection rule to pass; and

(j) allowing, by the intermediary device, the second message of the first user session to pass between the client and the server based on the exception rule that allows messages having the first URL component to pass.